

# Work Order ID 85058

**\*85058\***

Page 1

May-31-12 3:43:06 PM

Item ID: D212-664-101TRN

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Turning Detail

Start Date: 31/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/04 Tooling:

Date:

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_ SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D212-664-141

Rev D (DEO)

100

0.00

**\*100\***

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113

2-Turn first side as per Folio FA113

3-Blend transition lines only, \*\*do not sand whole tube\*\*.

FOLIO REV: AF

DWG REV: BT

\*Use mill bastard file, brush file repeatedly with file card.

\*Do not use sandpaper coarser than 320 grit.

110

QC1- Inspect dimensions to dimension sheet

0.00

**\*110\***

QC

Memo

0.00

Quality Control

man.l  
12/06/04

man.l  
12/06/04

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

# Work Order ID 85058

\*85058\*

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Item ID: D212-664-101TRN

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Crosstube Turning Detail

Stop

\*NS2\*

Start Date: 31/05/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

120

0.00

\*120\*

MORI SEIKI CNC LATHE LARGE

0.00

Mori Seiki

Memo

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA113

2-Blend transition lines only, \*\*do not sand whole tube\*\*:

\*Use mill bastard file, brush file repeatedly with file card.

\*Do not use sandpaper coarser than 320 grit.

FOLIO REV: 4A

DWG REV: D

3-Remove sand and plugs

130

0.00

\*130\*

QC1- Inspect dimensions to dimension sheet

0.00

QC

Memo

Quality Control

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 85058

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Page 3

Item ID: D212-664-101TRN

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Crosstube Turning Detail

Stop **\*NS2\***

Start Date: 31/05/2012 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start **\*NR1\***

QC: Date: SPC (Y/N): Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                          | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 140                            | QC8- Inspect parts - second check                 | 0.00                 |         |        |              |               |               |                  |                |
| <b>*140*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |
| 145                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*145*</b>                   |   |                      |         |        |              |               |               |                  |                |
| Crosstubes                     | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Crosstubes                     | GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY. |                      |         |        |              |               |               |                  |                |
| 150                            | Crosstubes Chemical Conversion                    | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   |   |                      |         |        |              |               |               |                  |                |
| HandFXtube                     | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Hand Finishing Crosstubes      |   |                      |         |        |              |               |               |                  |                |

DP

12-6-6

Rm

12-6-12

N  
A

710 →

| W/O: 85058 |      | WORK ORDER CHANGES   |    |      |     |                                     |                          |
|------------|------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE       | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|            |      | Step # 130 to be moved to After Berby<br>decision down why<br>Due to corrosion |    |      |     |                                     | S<br>17/dec/12           |
|            |      |  |    |      |     |                                     |                          |

Part No: D212-664-101TRN PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

**Work Order ID 85058**

May-31-12 3:43:06 PM

**\*85058\***

Page 4

Item ID: D212-664-101TRN

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Turning Detail

Start Date: 31/05/2012 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_

Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|---|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 160<br><b>*160*</b><br>QC<br>Quality Control  | QC7-Inspect Chemical Conversion Coat<br><br>Memo                                  | 0.00<br><i>A</i>     |         |        |              |               |               |                  |                |
| 170<br><b>*170*</b><br>Packaging<br>Packaging | Packaging<br><br>Memo<br>Identify and Stock in kanban rack<br>Location: <i>LG</i> | 0.00<br><br>0.00     |         |        |              |               |               |                  |                |
| 180<br><b>*180*</b><br>QC<br>Quality Control  | QC21- Final Inspection - Work Order Release<br><br>Memo                           | 0.00<br><br>0.00     |         |        |              |               |               |                  |                |

*Rm 12-6-18**12/6/18**ME 12-06-18*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

May-31-12 3:43:10 PM

Page 1

Work Order ID: 85058

\*85058\*

Parent Item: D212-664-101TRN

\*D212-664-101TRN\*

Parent Item Name: Crosstube Turning Detail

Start Date: 31/05/2012

Required Date: 14/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec  
IPP Rev B 08.04.02 removed Polish EC verified by: DD

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D6005-128                       |                        | Manufactured  | No          |                     |                  | 120             | Each               | 25.0000        | 1           | 1            |               |                |        |

\*D6005-128\*

\*\*

Crosstube Material

Location

Loc Qty

Loc Code

LG

25

25

09796

1 amm.L 12/08/03

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

|   |                     |                    |
|---|---------------------|--------------------|
| <b>DART AEROSPACE LTD</b>                                     | <b>Work Order:</b>  | 85058              |
| <b>Description:</b> Crosstube Assembly (205/212/412 High Fwd) | <b>Part Number:</b> | D212-664-141       |
| <b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> D             |                     | <b>Page 1 of 1</b> |

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

| Inspection Sheet | Drawing Dimension | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|------------------|-------------------|---------------|------------------|--------|--------|----------------------|----------|
| SIDE A           | 0.200             | +/-0.010      | .200             | ✓      |        |                      |          |
|                  | R0.063            | +/-0.010      | .063             | ✓      |        |                      |          |
|                  | 2.740             | +0.005/-0.000 | 2.742            | ✓      |        |                      |          |
|                  | 5.097             | +/-0.030      | 5.100            | ✓      |        |                      |          |
|                  | 2.304             | +0.005/-0.000 | 2.309            | ✓      |        |                      |          |
|                  | 2.340             | +0.005/-0.000 | 2.345            | ✓      |        |                      |          |
|                  | 2.398             | +0.005/-0.000 | 2.403            | ✓      |        |                      |          |
|                  | 2.448             | +0.005/-0.000 | 2.453            | ✓      |        |                      |          |
|                  | 2.498             | +0.005/-0.000 | 2.502            | ✓      |        |                      |          |
|                  | 2.549             | +0.005/-0.000 | 2.554            | ✓      |        |                      |          |
|                  | 2.599             | +0.005/-0.000 | 2.604            | ✓      |        |                      |          |
|                  | 2.671             | +0.005/-0.000 | 2.673            | ✓      |        |                      |          |
|                  | 2.701             | +0.005/-0.000 | 2.703            | ✓      |        |                      |          |
|                  |                   |               |                  |        |        |                      |          |
| SIDE B           | 0.200             | +/-0.010      | .200             | ✓      |        |                      |          |
|                  | R0.063            | +/-0.010      | .063             | ✓      |        |                      |          |
|                  | 2.740             | +0.005/-0.000 | 2.742            | ✓      |        |                      |          |
|                  | 5.097             | +/-0.030      | 5.100            | ✓      |        |                      |          |
|                  | 2.304             | +0.005/-0.000 | 2.309            | ✓      |        |                      |          |
|                  | 2.340             | +0.005/-0.000 | 2.345            | ✓      |        |                      |          |
|                  | 2.398             | +0.005/-0.000 | 2.403            | ✓      |        |                      |          |
|                  | 2.448             | +0.005/-0.000 | 2.452            | ✓      |        |                      |          |
|                  | 2.498             | +0.005/-0.000 | 2.502            | ✓      |        |                      |          |
|                  | 2.549             | +0.005/-0.000 | 2.554            | ✓      |        |                      |          |
|                  | 2.599             | +0.005/-0.000 | 2.603            | ✓      |        |                      |          |
|                  | 2.671             | +0.005/-0.000 | 2.673            | ✓      |        |                      |          |
|                  | 2.701             | +0.005/-0.000 | 2.701            | ✓      |        |                      |          |
|                  | 126.514           | +/-0.020      | 126.520          | ✓      |        | ape                  | 16-82    |

|                                       |                                       |                            |     |
|---------------------------------------|---------------------------------------|----------------------------|-----|
| <b>Measured by:</b> <i>man. l. j.</i> | <b>Audited by:</b> <i>[Signature]</i> | <b>Prototype Approval:</b> | N/A |
| <b>Date:</b> 12/06/03                 | <b>Date:</b> 12-6-6                   | <b>Date:</b>               | N/A |

| Rev | Date     | Change   | Revised by            | Approved           |
|-----|----------|--|-----------------------|--------------------|
| A   | 05.04.27 | New Issue (P/O D412-664-101)                   | KJ/JLM                |                    |
| B   | 06.03.15 | Tolerance revised for 5.097 per Dwg Rev update | KJ/JLM                |                    |
| C   | 07.05.28 | Dwg Rev updated                                | KJ/JLM                |                    |
| D   | 10.02.02 | Dimension 126.514 was 126.51                   | KJ <i>[Signature]</i> | <i>[Signature]</i> |

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

| Item | Qty<br>-141 | Qty<br>-141B | Part Number    | Description   |
|------|-------------|--------------|----------------|---|
| 1    | X           |              | D212-664-141   | CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)   |
| 2    |             | X            | D212-664-141B  | CROSSTUBE ASSEMBLY (214 HIGH FWD)   |
| 3    | 1           | 1            | D6005-128      | CROSSTUBE   |
| 4    | 2           | 2            | D2893-1        | SUPPORT   |
| 5    | 4           | 4            | D3595-063-450  | RUBBER CUSHION  |
| 6    | 4           | 4            | MS21920-25     | CLAMP (OR MS21920-26)   |
| 7    | A/R         | A/R          | MAGNOBOND 6398 | ROCKWELL SPECIFICATION RBO-120-023<br>ADHESIVE (TEXTRON/BELL SPEC. 299-947-100,<br>TYPE II, CLASS 2 ADHESIVE) |

# **GENERAL NOTES:**

- MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH = 126.514±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)  
D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 85058 MJS

REMOVED FROM UNDER REVIEW PER  
**UNDER REVIEW** BGN H 11-604  
of 11/2/13  
FOR PPS SEALING SUBJECT

**DEO ATTACHED**

**RELEASED**  
2009-10-29  
MT

|            |  |  |              |
|------------|--|--|--------------|
| D          | REFORMAT/REVISE GENERAL NOTES/PART LIST;<br>REORGANIZED VIEWS AND REFORMATTED DRAWING<br>TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2);<br>REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, C8-3<br>& B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3);<br>MOVED TURNING DETAIL & UPDATED TOLERANCE TO<br>SHEET 4 | RF   | 09.09.30     |
| C          | REMOVE -851 ABRASION STRIP; ADD MAGNOBOND<br>6398, CUSHION, REVERSE CLAMPS   | PH   | 07.03.08     |
| B          | ADD HOLES FOR COMPATABILITY WITH BHT/AA<br>SKIDTUBES   | PH   | 05.02.04     |
| A          | NEW ISSUE  | PH   | 00.12.12     |
| REV.       | DESCRIPTION  | BY   | DATE         |
| DESIGN     | PH   | <b>DART AEROSPACE LTD</b>  |              |
| DRAWN      | RF   | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED    | PH   | DRAWING NO.  | REV. D       |
| MFG. APPR. | PH   | D212-664-141   | SHEET 1 OF 4 |
| APPROVED   | PH   | TITLE  | SCALE        |
| DE APPR.   | PH   | XTUBE ASSY (205/212/412 HI FWD)  | NTS          |
| DATE       | 09.09.30   | COPYRIGHT © 2000 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

12 13 15  
D2893-1 SUPPORT  
MS21920-25 CLAMP, 2X  
D3595-063-450 RUBBER CUSHION, 2X  
2 PL

A4-2

A

14.00 (-141)  
OR 13.75 (-141B)

D

D212-664-501  
BENT TUBE

SYM

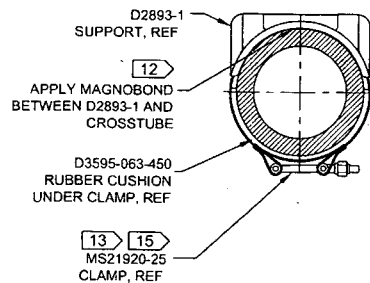
**D212-664-141/-141B**  
**ASSEMBLY DETAIL**

D

DC011-614  
11.07.28  
**UNDER REVIEW**  
11.07.28

**DEO ATTACHED**

**RELEASED**  
2009-10-29



**SECTION A-A** D5-2  
SCALE 4X

|  |          |  |              |
|--|----------|--|--------------|
| DESIGN   | PH       | DART AEROSPACE LTD                     |              |
| DRAWN  | RF       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | 9        | DRAWING NO.                            | REV. D       |
| MFG. APPR.   | 18       | D212-664-141                           | SHEET 2 OF 4 |
| APPROVED   | 18       | TITLE                                  | SCALE        |
| DE APPR.   | 18       | XTUBE ASS'Y (205/212/412 HI FWD)       | NTS          |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

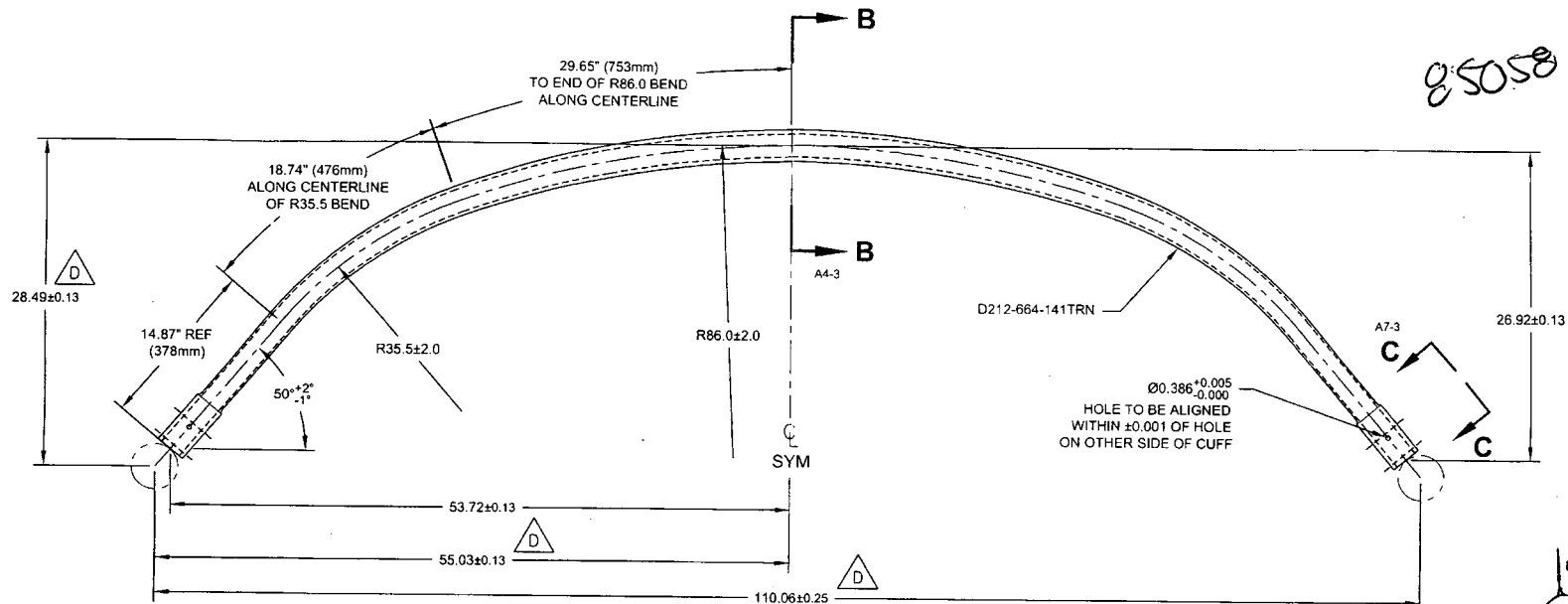
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries





**D212-664-501**  
**BENDING AND DRILLING DETAIL**

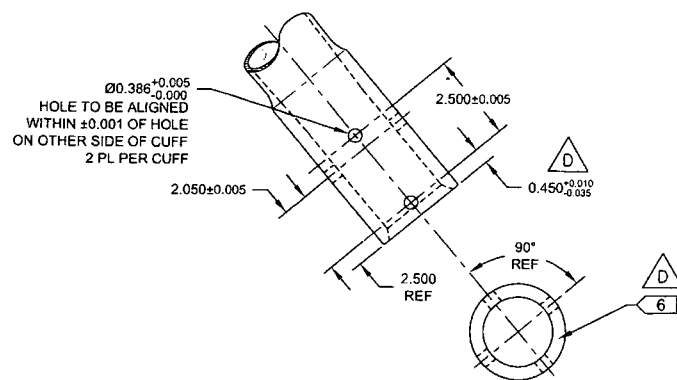
10 D

UNDER REVIEW

11.09.03

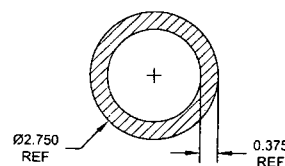
DEO ATTACHED

RELEASED  
2009-10-29



**VIEW C-C: CUFF DETAIL**  
SCALE 3X

C2-3



**SECTION B-B**  
SCALE 4X

C4-3

|   |          |  |              |
|---|----------|--|--------------|
| DESIGN  | PH       | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN   | RF       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED   | Q        | DRAWING NO.                            | REV. D       |
| MFG. APPR.  | DS       | D212-664-141                           | SHEET 3 OF 4 |
| APPROVED  | AP       | TITLE                                  | SCALE        |
| DE APPR.  | HT       | XTUBE ASS'Y (205/212/412 HI FWD)       | NTS          |
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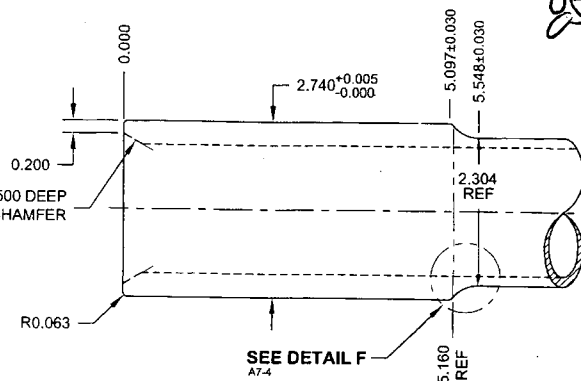
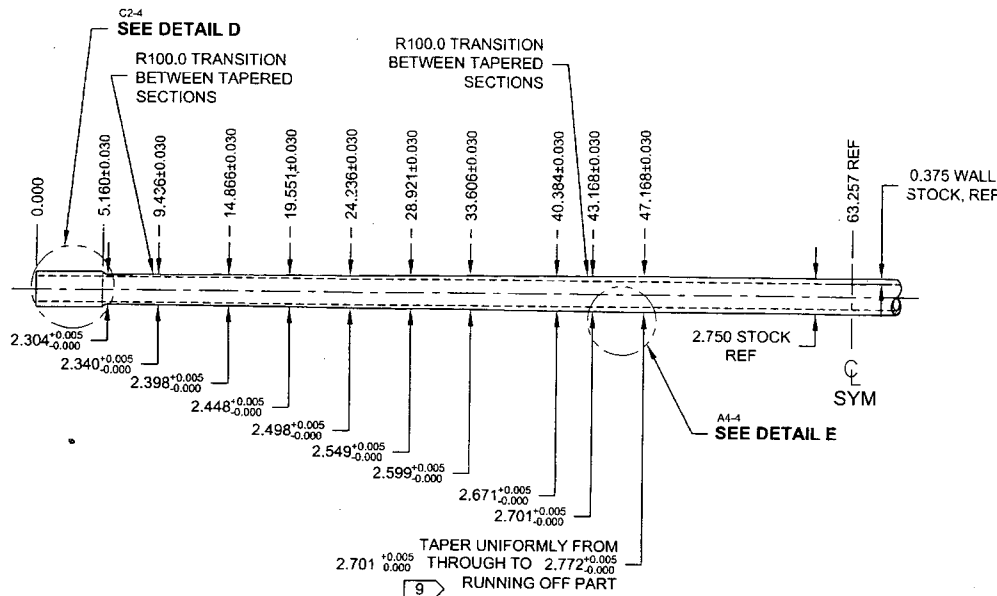
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

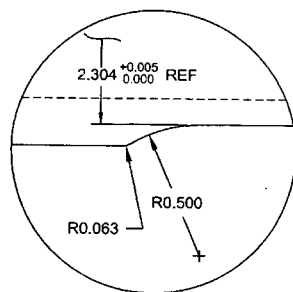
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

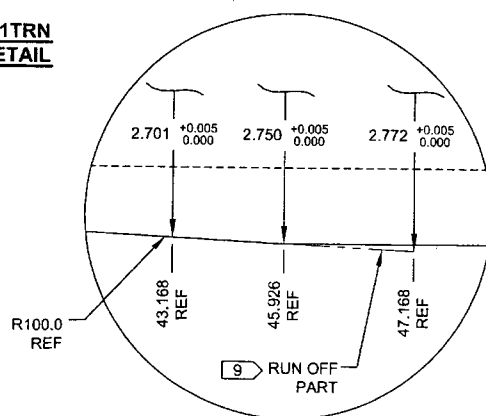
**NOTE:** Date & initial all entries



**DETAIL D:**  
**CROSSTUBE CUFF** D8-4  
SCALE 5X



**DETAIL F:**  
**CUFF TRANSITION** C2-4  
SCALE 10X



**DETAIL E:**  
**TAPER RUN-OFF** C5-4  
NOT TO SCALE

UNDER REVIEW  
11.06.13

DEO ATTACHED

**RELEASED**  
2009-10-29

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | PH       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |              |
| DRAWN      | RF       |  |              |
| CHECKED    | PS       | DRAWING NO.  | REV. D       |
| MFG. APPR. | PS       | D212-664-141   | SHEET 4 OF 4 |
| APPROVED   | PS       | TITLE  | SCALE        |
| DE APPR.   | PS       | XTUBE ASS'Y (205/212/412 HI FWD)   | NTS          |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

85058

|                             |  |               |   |               |                                |                           |               |
|-----------------------------|--|---------------|---|---------------|--------------------------------|---------------------------|---------------|
| DRAWING NO.<br>D212-664-141 | TITLE<br>XTUBE ASSY (205/212/412 HI FWD) | REV. D        | DART AEROSPACE LTD<br>ENGINEERING ORDER |               | D.E.O. NO.<br>D212-664-141-D-1 | SHEET NO.<br>SHEET 1 OF 2 | SCALE<br>.NTS |
| DRAWN                       | CHECKED                                  | MFG. APPR.    | APPROVED                                | DE APPR.      |                                |                           |               |
| DATE 11.04.07               | DATE 11.04.11                            | DATE 11.04.12 | DATE 11/04/12                           | DATE 11.04.12 |                                |                           |               |

**PURPOSE:**

ADD AN INSPECTION WINDOW TO UNDERSIDE OF CROSSTUBE.

**CHANGE:**

NOTES 2 OF SHEET 1 IS AMENDED AS FOLLOWS:

**IS:**

- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA) AND  
PAINT OUTSIDE PER DART QSI 005 4.2  
REMOVE MASKING AND APPLY CLEAR COAT

**WAS:**

- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2

**RELEASED**  
2011-04-18

**UNDER REVIEW**

11/06/13  
12 00511-614  
11.07.28

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

25058

|                             |  |                     |   |                                |                           |              |
|-----------------------------|--|---------------------|---|--------------------------------|---------------------------|--------------|
| DRAWING NO.<br>D212-664-141 | TITLE<br>XTUBE ASSY (205/212/412 HI FWD) | REV. D              | DART AEROSPACE LTD<br>ENGINEERING ORDER | D.E.O. NO.<br>D212-664-141-D-1 | SHEET NO.<br>SHEET 2 OF 2 | SCALE<br>NTS |
| DRAWN                       | CHECKED <i>CP</i>                        | MFG. APPR. <i>E</i> | APPROVED <i>WAD</i>                     | DE APPR. <i>WAD</i>            |                           |              |
| DATE 11.04.07               | DATE 11.04.11                            | DATE 11.04.12       | DATE 11/04/12                           | DATE 11.04.12                  |                           |              |

**IS:**

**WAS:**

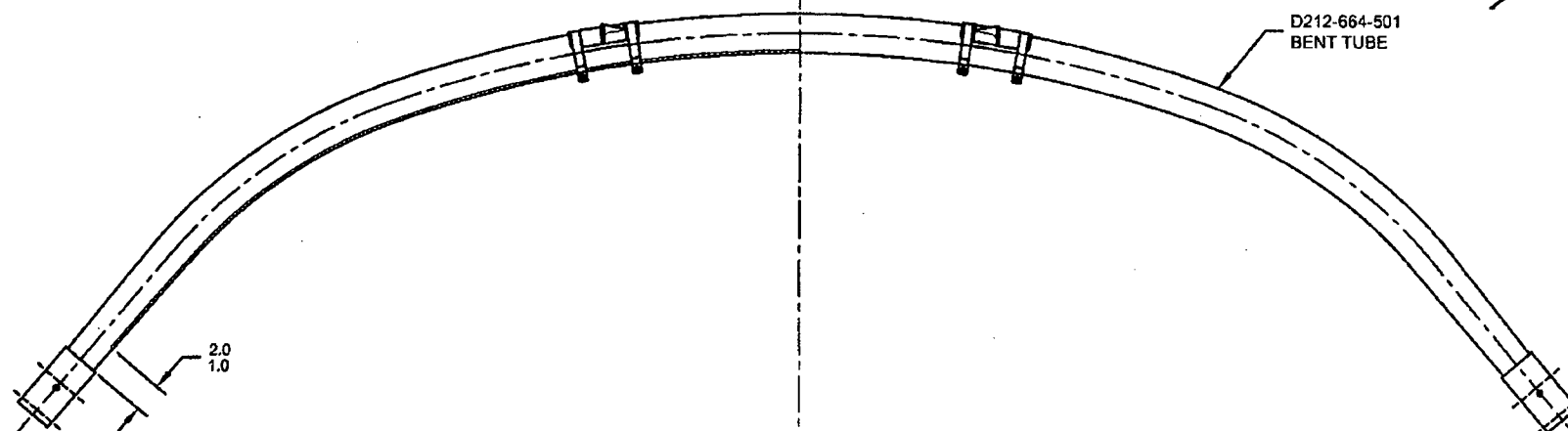
**UNDER REVIEW**

*CP* 11/06/13

ECN# 11-614

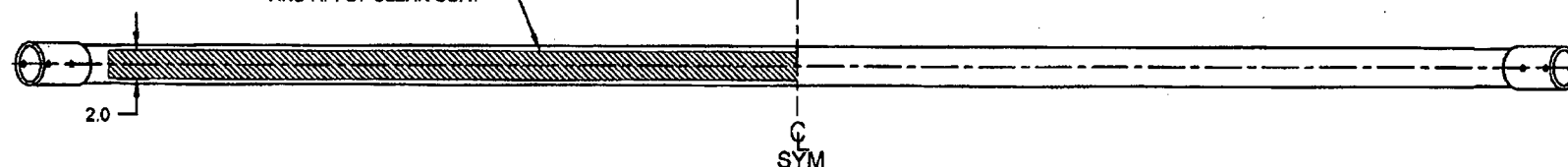
11.07.28

D212-664-501  
BENT TUBE



**D212-664-141/141B  
ASSEMBLY DETAIL**

MASK AREA PRIOR TO PAINTING,  
REMOVE MASKING AFTER PAINT  
AND APPLY CLEAR COAT



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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



|                             |                                       |                      |   |  |                                |                           |              |
|-----------------------------|---------------------------------------|----------------------|---|--|--------------------------------|---------------------------|--------------|
| DRAWING NO.<br>D212-664-141 | TITLE<br>CROSSTUBE ASS'Y (205 HI FWD) | REV. D               | <b>DART AEROSPACE LTD<br/>ENGINEERING ORDER</b> |  | D.E.O. NO.<br>D212-664-141-D-2 | SHEET NO.<br>SHEET 1 OF 1 | SCALE<br>NTS |
| DRAWN <i>UP</i>             | CHECKED <i>ASS</i>                    | MFG. APPR. <i>AB</i> | APPROVED <i>MP</i>                              |  | DE APPR. <i>HH</i>             |                           |              |
| DATE 11.07.15               | DATE 11.07.20                         | DATE 11.07.21        | DATE 11/07/21                                   |  | DATE 11.07.21                  |                           |              |

**PURPOSE:**

REPLACE MAGNOBOND WITH PROSEAL.

**CHANGE:**

**IS:**

| Item | Qty<br>-141 | Qty<br>-141B | Part Number     | Description                   |
|------|-------------|--------------|-----------------|-------------------------------|
| 7    | A/R         | A/R          | PROSEAL 890 B-2 | SEALANT, AMS-S-8802 CLASS B-2 |

**WAS:**

|   |     |     |                |   |
|---|-----|-----|----------------|---|
| 7 | A/R | A/R | MAGNOBOND 6398 | ROCKWELL SPECIFICATION RBO-120-023<br>ADHESIVE (TEXTRON/BELL SPEC. 299-947-100,<br>TYPE II, CLASS 2 ADHESIVE) |
|---|-----|-----|----------------|---|

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

**IS:**

- 12) TO INSTALL D2893-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

**WAS:**

- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED  
 2011-07-28  
*28*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

85 058

212-664-101

**ULTRA SONIC MEASUREMENTS**

| Tube<br># | LOCATION<br>on tube | R1   | R2   | R3 | R4 |
|-----------|---------------------|------|------|----|----|
| 1         |                     | .218 | .306 |    |    |
| 2         |                     | .206 | .303 |    |    |
| 3         |                     | .209 | .295 |    |    |
| 4         |                     | .215 | .293 |    |    |
| 5         |                     |      |      |    |    |
| 6         |                     | .228 | .312 |    |    |
| 7         |                     | .224 | .304 |    |    |
| 8         |                     | .199 | .290 |    |    |
| 9         |                     | .195 | .288 |    |    |
| 10        |                     |      |      |    |    |
| 11        |                     |      |      |    |    |
| 12        |                     |      |      |    |    |
| 13        |                     |      |      |    |    |
| 14        |                     |      |      |    |    |
| 15        |                     |      |      |    |    |
| 16        |                     |      |      |    |    |
| Notes     |                     |      |      |    |    |